

REMARKS/ARGUMENTS

Reconsideration and allowance in view of the foregoing amendment and the following remarks are respectfully requested.

Claims 1-16 and 37-42 are now pending. Claims 17-36 have been canceled above without prejudice or disclaimer. Applicant reserves the right to file a divisional application directed to the subject matter of the non-elected and now canceled claims.

The disclosure was objected to because of informalities noted on page 31. The specification has been revised above to correct the matters noted by the Examiner. Furthermore, the specification has been revised beginning at page 22, line 9 to provide clear antecedent basis for the claimed first and second distances and their particular relationship, which are as shown in Figure 2. No new matter has been added by this amendment.

Claim 2 was objected to because a phrase therein was not fully understood. Claim 2 has been canceled and the subject matter thereof has been incorporated into an amended claim 1. As so amended, the language previously presented in claim 2 has been revised so as to clarify the matter noted by the Examiner. Reconsideration and withdrawal of the objection is solicited.

Claim 6 was objected to because of a noted informality. Claim 6 has been revised above so as to clarify the matter noted by the Examiner. Reconsideration and withdrawal of this objection is requested.

Original claims 1-5, 12-14 and 16 were rejected under 35 USC 102(b) as being anticipated by Yamada. Applicant respectfully traverses this rejection.

Claim 1 has been amended above to incorporate the subject matter previously presented in claim 2. Furthermore, claim 1 has been amended so as to more clearly define the position of the gas inlet hole relative to the detecting portion of the air-fuel ratio sensor element. Thus, claim 1 now more specifically recites (using reference

numbers corresponding to an illustrated embodiment as a non-limiting example) that the detecting portion 39 of the air-fuel ration sensor element 3 is spaced from the end face H1 of the housing 10 by a first distance ΔH in the axial direction of the sensor, and the gas inlet hole 210 of the innermost cover member 21 has a center G located at a position spaced from the end face H1 of the housing 10 in the axial direction of the sensor by a second distance smaller than one-half ($\Delta H/2$) of the first distance ΔH .

With the foregoing arrangement, measured gas introduced in the measured gas side cover 2 is allowed to reach the detecting portion 39 of the air-fuel ratio sensor element 3 only after traveling over a sufficiently long distance. During such relatively long distance traveling, combustible gas contained in the unburnt gas is burnt away, with the result that the detecting portion 39 of the air-fuel ratio sensor element 3 is prevented from being oxygen-enriched more than the original condition of the measured gas. This insures highly accurate air-fuel ration measurement.

Anticipation under Section 102 of the Patent Act requires that a prior art reference disclose every claim element of the claimed invention. See, e.g., Orthokinetics, Inc. v. Safety Travel Chairs, Inc., 806 F.2d 1565, 1574 (Fed. Cir. 1986). While other references may be used to interpret an allegedly anticipating reference, anticipation must be found in a single reference. See, e.g., Studiengesellschaft Kohle, G.m.b.H. v. Dart Indus., Inc., 726 F.2d 724, 726-27 (Fed. Cir. 1984). The absence of any element of the claim from the cited reference negates anticipation. See, e.g., Structural Rubber Prods. Co. v. Park Rubber Co., 749 F.2d 707, 715 (Fed. Cir. 1984). Anticipation is not shown even if the differences between the claims and the prior art reference are insubstantial and the missing elements could be supplied by the knowledge of one skilled in the art. See, e.g., Structural Rubber Prods., 749 F.2d at 716-17.

In rejecting certain of the claims as anticipated by Yamada, the Examiner refers in particular to the arrangement shown in Figures 18A and 21A of Yamada. It is clear from Figure 18A, however, that the distance from the upper end of the inner pipe 3, as

an end face of the housing, to the center of each inner side hole 35 of the inner pipe 3 is larger than one-half of the distance from the upper end of outer pipe 20 as the end face of the housing to a gas sensing portion 119 of the sensing element 101. Thus, with the arrangement disclosed in Yamada, measured gas may reach the gas sensing portion 119 in a relatively short time with combustible gas left unburnt. This will cause insufficient reaction between the combustible gas and oxygen, bringing about a lean shift phenomenon occurring in the output from the air-fuel ratio sensor. Under such conditions, accurate air-fuel ratio measurement cannot be achieved.

The arrangement shown in Figure 21A of Yamada lacks a sensing element and, therefore, there is no disclosure or teaching about the positional relationship between the gas inlet hole and the gas sensing portion, as recited in amended claim 1. A similar arrangement is shown in Figure 14 of Yamada. In the Figure 14 arrangement, the sensing portion of sensing element 5 is not shown. Accordingly, the arrangement of Figure 14 also fails to teach the positional relationship between the gas inlet hole and the gas sensing portion as recited in amended claim 1.

For the reasons advanced above, it is respectfully submitted that Yamada fails to disclose or suggest the particular location of the gas inlet hole relative to the detecting portion of the air-fuel ration sensor element specifically required by amended claim 1. It is therefore respectfully submitted that claim 1 is not anticipated by Yamada nor obvious from its teachings and should therefore be allowable over Yamada.

Claim 15 was rejected under 35 USC 103(a) as being unpatentable over Yamada in view of Sato. Applicant respectfully traverses this rejection.

Claim 15 is submitted to be patentable over Yamada for the reasons advanced above with respect to claim 1. The Examiner's further reliance on Sato does not overcome the deficiencies of Yamada noted above. Therefore, even if Yamada and Sato can properly be combined, that combination would still not anticipated nor render obvious the invention of claim 15 for the reasons advanced above.

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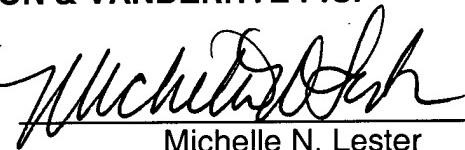
Reconsideration and withdrawal of this rejection are requested.

All objections and rejections having been addressed, it is respectfully submitted that the present application is in condition for allowance and an early Notice to that effect is earnestly solicited.

Respectfully submitted,

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